Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A turbine component having a substrate formed from a ceramic material selected from the group consisting of a monolithic ceramic material and a composite ceramic material and a thermal barrier coating bonded to said substrate, said thermal barrier coating ~~comprising~~ consisting of at least 15 mol% of at least one lanthanide sesquioxide and the balance ~~comprising~~ consisting of ceria.

2. (original) A turbine component according to claim 1, wherein said ceramic material comprises a monolithic ceramic material.

3. (previously presented) A turbine component according to claim 1, wherein said ceramic material is selected from the group consisting of silicon nitride and self-reinforced silicon nitride.

4. (original) A turbine component according to claim 1, wherein said ceramic material comprises a composite ceramic material.

5. (previously presented) A turbine component according to claim 1, wherein said ceramic material is selected from the group consisting of a silicon carbide-silicon carbide material and a carbon-carbon material~~s~~.

6. (cancelled)

7. (currently amended) A turbine component ~~according to claim 1, wherein~~ having a substrate formed from a ceramic material selected from the group consisting of a monolithic ceramic material and a composite ceramic material and a thermal barrier coating bonded to said substrate, said thermal barrier coating comprising at least one lanthanide sesquioxide and the balance comprising ceria and the ~~first oxide is~~ ceria being present in an amount greater than 50 mol%.

8. (previously presented) A turbine component according to claim 1, wherein the at least one lanthanide sesquioxide has a formula A_2O_3 where A is selected from the group consisting of La, Pr, Nd, Sm, Eu, Tb, and mixtures thereof.

9. (previously presented) A turbine component according to claim 1, wherein said at least one lanthanide sesquioxide is present in a total amount in the range of 15 to 45 mol%.

10. (previously presented) A turbine component according to claim 1, wherein said at least one lanthanide sesquioxide is present in a total amount of at least 25 mol%.

11 - 13. (cancelled)

14. (previously presented) A turbine component having a substrate formed from a ceramic material selected from the group consisting of a monolithic ceramic material and a composite ceramic material and a thermal barrier coating bonded to said substrate, the thermal barrier coating comprising greater than 30 mol% Sc_2O_3, said thermal barrier coating comprising at least 15 mol% of at least one lanthanide sesquioxide wherein said at

least one lathanide sesquioxide comprises a lanthanide sesquioxide having a formula A_2O_3 where A is selected from the group consisting of Nd, Eu, Dy, Gd, Er, Pr, and mixtures thereof, and the balance being zirconia.

15. (original) A turbine component according to claim 14, wherein said zirconia is present in an amount greater than 40 mol%.

16. (original) A turbine component according to claim 14, wherein said coating has less than 10 vol% of phases with a pyrochlore crystal structure.

17. (original) A turbine component according to claim 14, wherein said lanthanide sesquioxide is present in an amount in the range of from 0.001 to 30 mol%.

18. (previously presented) A turbine component having a substrate formed from a ceramic material selected from the group consisting of a monolithic ceramic material and a composite ceramic material and a thermal barrier coating bonded to said substrate, the thermal barrier coating comprising more than 20 mol% In_2O_3, said thermal barrier coating comprising at least 15 mol% of at least one lanthanide sesquioxide wherein said at least one lathanide sesquioxide comprises a lanthanide sesquioxide having a formula A_2O_3 where A is selected from the group consisting of Er, Nd, Eu, Dy, Gd, Pr, and mixtures thereof, and the balance being zirconia.

19. (original) A turbine component according to claim 18, wherein said zirconia is present in an amount greater than 40 mol%.

20. (original) A turbine component according to claim 18, wherein said coating contains less than 10 vol% of phases with a pyrochlore crystal structure.

21. (currently amended) A turbine component according to claim 18, wherein said lanthanide sesquioxide is present in an amount from ~~0.001~~ 15 to 40 mol%.

22. (previously presented) A turbine component having a substrate formed from a ceramic material selected from the group consisting of a monolithic ceramic material and a composite ceramic material and a thermal barrier coating bonded to said substrate, the thermal barrier coating consisting of from 5 to 60 mol% of at least one of La_2O_3 and Sm_2O_3, and from 5 to 60 mol% of at least one oxide having a formula A_2O_3 where A is selected from the group consisting of Sc, In, Pr, Nd, Eu, Gd, Yb, and mixtures thereof, and the balance being zirconia.

23. (original) A turbine component according to claim 22, wherein said zirconia is present in an amount greater than 40 mol%.

24. (original) A turbine component according to claim 22, wherein said coating contains less than 10 vol% of phases with a pyrochlore crystal structure.

25. (previously presented) A turbine component having a substrate formed from a ceramic material selected from the group consisting of a monolithic ceramic material and a composite ceramic material and a thermal barrier coating bonded to said substrate, the thermal barrier coating consisting of from 0.5 to 22.5 mol% of at least one first oxide having a formula A_2O_3 where A is selected from the group consisting of La, Tb, Tm, and Lu combined with a second oxide selected from the group consisting of hafnia, and ceria.

26. (original) A turbine component according to claim 25, wherein said second oxide is present in an amount of at least 77.5 mol%.

27. (previously presented) A turbine component having a substrate formed from a ceramic material selected from the group consisting of a monolithic ceramic material and a composite ceramic material and a thermal barrier coating bonded to said substrate, the thermal barrier coating consists of from 0.5 to 22.5 mol% of at least one first oxide having a formula A_2O_3 where A is selected from the group consisting of La, Tb, Tm, and Lu, a second oxide selected from the group consisting of zirconia, hafnia, and ceria, and from 0.5 to 59.5 mol% of at least one third oxide from the group consisting of In_2O_3, Sc_2O_3, MgO, CaO, and mixtures thereof and said second oxide being present in an amount greater than 40 mol%.

28. (previously presented) A turbine component having a substrate formed from a ceramic material selected from the group consisting of a monolithic ceramic material and a composite ceramic material and a thermal barrier coating bonded to said

substrate, the thermal barrier coating consists of from 0.5 to 22.0 mol% of at least one first oxide having a formula A_2O_3 where A is selected from the group consisting of La, Tb, Tm, and Lu, a second oxide selected from the group consisting of hafnia, and ceria, and from 0.5 to 22.0 mol% of at least one third oxide selected from the group consisting of Pr_2O_3, Nd_2O_3, Eu_2O_3, Gd_2O_3, Dy_2O_3, Er_2O_3, Yb_2O_3, and mixtures thereof, and said at least one first oxide and said at least one third oxide being present in a total content less than 22.5 mol%.

29. (previously presented) A turbine component having a substrate formed from a ceramic material selected from the group consisting of a monolithic ceramic material and a composite ceramic material and a thermal barrier coating bonded to said substrate, the thermal barrier coating consisting of from 0.5 to 1.0 mol% of at least one first oxide from the group consisting of Pr_2O_3, Nd_2O_3, Eu_2O_3, Gd_2O_3, Dy_2O_3, Er_2O_3, Yb_2O_3, In_2O_3, Sc_2O_3, and mixtures thereof, combined with ceria.

30. (previously presented) A turbine component having a substrate formed from a ceramic material selected from the group consisting of a monolithic ceramic material and a composite ceramic material and a thermal barrier coating bonded to said substrate, the thermal barrier coating consisting of from 0.5 to 1.0 mol% of at least one first oxide from the group consisting of Pr_2O_3, Nd_2O_3, Eu_2O_3, Gd_2O_3, Dy_2O_3, Er_2O_3, Yb_2O_3, In_2O_3, Sc_2O_3, and mixtures thereof, a second oxide selected from the group consisting of hafnia, and ceria, and from 0.5 to 21.5 mol% of at least one third oxide selected from the group consisting of La_2O_3, Tb_2O_3, Tm_2O_3, Ho_2O_3, Lu_2O_3, CaO, and mixtures thereof, said at least one first oxide and said at least one third oxide being

present in a total amount of less than 22.5 mol%, and said second oxide being present in an amount of at least 77.5 mol%.

31 - 32. (cancelled)

33. (previously presented) A turbine component having a substrate formed from a ceramic material selected from the group consisting of a monolithic ceramic material and a composite ceramic material and a thermal barrier coating bonded to said substrate, said thermal barrier coating consisting of from 0.5 to 22.0 mol% of CeO_2, and from 0.5 to 22.0 mol% of at least one first oxide selected from the group consisting of La_2O_3, Sm_2O_3, Tb_2O_3, Tm_2O_3, Ho_2O_3, Lu_2O_3, MgO, CaO, Pr_2O_3, Nd_2O_3, Eu_2O_3, Dy_2O_3, Er_2O_3, Yb_2O_3, and mixtures thereof, combined with hafnia, and said CeO_2 and the at least one first oxide being present in an amount no greater than 22.5 mol%.

34. (cancelled)

35. (previously presented) A turbine component having a substrate formed from a ceramic material selected from the group consisting of a monolithic ceramic material and a composite ceramic material and a thermal barrier coating bonded to said substrate, said thermal barrier coating consisting of from 0.5 to 22.5 mol% of CeO_2, from 0.5 to 59.5 mol% of at least one oxide selected from the group consisting of In_2O_3, Sc_2O_3, and mixtures thereof, combined with at least 40 mol% hafnia.

36. (previously presented) A turbine component having a substrate formed from a ceramic material selected from the group consisting of a monolithic ceramic material and a composite

ceramic material and a thermal barrier coating bonded to said substrate, said thermal barrier coating consisting of from 9.0 to 22.5 mol% of at least one first oxide selected from the group consisting of Pr_2O_3, Nd_2O_3, Eu_2O_3, and mixtures thereof, combined with a second oxide selected from the group consisting of hafnia, and ceria.

37. (original) A turbine component according to claim 36, wherein said second oxide is present in an amount greater than 77.5 mol%.

38. (previously presented) A turbine component having a substrate formed from a ceramic material selected from the group consisting of a monolithic ceramic material and a composite ceramic material and a thermal barrier coating bonded to said substrate, said thermal barrier coating consisting of from 9.0 to 22.5 mol% of at least one oxide selected from the group consisting of Pr_2O_3, Nd_2O_3, Eu_2O_3, and mixtures thereof, a second oxide selected from the group consisting of hafnia and ceria, and from 0.5 to 51 mol% of at least one third oxide selected from the group consisting of Yb_2O_3, In_2O_3, MgO, CaO, and mixtures thereof and said second oxide being present in an amount of at least 40 mol%.

39. (previously presented) A turbine component having a substrate formed from a ceramic material selected from the group consisting of a monolithic ceramic material and a composite ceramic material and a thermal barrier coating bonded to said substrate, said thermal barrier coating consists of from 15.0 to 22.5 mol% of a first oxide selected from the group consisting of

Dy_2O_3 and Yb_2O_3 combined with at least 77.5 mol% of a second oxide selected from the group consisting of hafnia, and ceria.

40. (previously presented) A turbine component having a substrate formed from a ceramic material selected from the group consisting of a monolithic ceramic material and a composite ceramic material and a thermal barrier coating bonded to said substrate, said thermal barrier coating consisting of from 0.5 to 59.5 mol% Dy_2O_3 and from 0.5 to 59.5 mol% of at least one oxide from the group consisting of In_2O_3, CaO, and mixtures thereof, combined with at least 40 mol% of an oxide selected from the group consisting of hafnia, and ceria.

41. (previously presented) A turbine component having a substrate formed from a ceramic material selected from the group consisting of a monolithic ceramic material and a composite ceramic material and a thermal barrier coating bonded to said substrate, said thermal barrier coating consisting of from 0.5 to 59.5 mol% Yb_2O_3 and from 0.5 to 59.5 mol% of at least one oxide from the group consisting of In_2O_3, CaO, and mixtures thereof, combined with at least 40 mol% of an oxide selected from the group consisting of hafnia, and ceria.

42. (previously presented) A turbine component having a substrate formed from a ceramic material selected from the group consisting of a monolithic ceramic material and a composite ceramic material and a thermal barrier coating bonded to said substrate, said thermal barrier coating consisting of from 20.5 to 60 mol% of at least one oxide from the group consisting of In_2O_3, Sc_2O_3, MgO, CaO, and mixtures thereof, combined with at

least 40 mol% of an oxide selected from the group consisting of hafnia, and ceria.

43. (previously presented) A turbine component having a substrate formed from a ceramic material selected from the group consisting of a monolithic ceramic material and a composite ceramic material and a thermal barrier coating bonded to said substrate, said thermal barrier coating consisting of from 15 to 59.5 mol% Y_2O_3, from 0.5 to 45 mol% of at least one first oxide selected from the group consisting of La_2O_3, Sm_2O_3, Tb_2O_3, Tm_2O_3, Ho_2O_3, Lu_2O_3, MgO, CaO, Pr_2O_3, Nd_2O_3, Eu_2O_3, Dy_2O_3, Er_2O_3, Yb_2O_3, In_2O_3, Sc_2O_3, and mixtures thereof, combined with at least 40 mol% of ceria.

44. (previously presented) A turbine component having a substrate formed from a ceramic material selected from the group consisting of a monolithic ceramic material and a composite ceramic material and a thermal barrier coating bonded to said substrate, said thermal barrier coating consisting of from 9.0 to 23.0 mol% Gd_2O_3, from 0.5 to 45 mol% of at least one first oxide selected from the group consisting of La_2O_3, Sm_2O_3, Tb_2O_3, Tm_2O_3, Ho_2O_3, Lu_2O_3, MgO, CaO, Pr_2O_3, Nd_2O_3, Eu_2O_3, Dy_2O_3, Er_2O_3, Yb_2O_3, In_2O_3, Sc_2O_3, and mixtures thereof, combined with at least 40 mol% of ceria.

45. (original) A turbine component according to claim 1, further comprising at least one bond coat layer between said substrate and said thermal barrier coating, and said at least one bond coat layer providing coefficient of thermal expansion matching, oxidation resistance and corrosion resistance.

46. (currently amended) A turbine component having a substrate formed from a ceramic material selected from the group consisting of a monolithic ceramic material and a composite ceramic material and a thermal barrier coating bonded to said substrate, a bond coat layer between and in contact with said substrate and said thermal barrier coating, said bond coat layer ~~being formed by~~ consisting of Ta_2O_5.

47. (original) A turbine component according to claim 45, wherein said at least one bond coat is formed from a rare earth disilicate having the formula $X_2Si_2O_7$ where X is selected from the group consisting of La, Nd, Pr, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, and Lu.

48. (original) A turbine component according to claim 45, wherein said at least one bond coat layer comprises $Y_2Si_2O_7$.

49. (original) A turbine component according to claim 45, wherein said at least one bond coat layer comprises mullite.

50. (original) A turbine component according to claim 45, wherein said at least one bond coat layer comprises barium strontium alumino silicate.

51. (original) A turbine component according to claim 45, wherein said at least one bond coat layer comprises yttrium aluminum garnet.

52. (original) A turbine component according to claim 45, wherein said at least one bond coat layer comprises ytterbium aluminum garnet.

53. (original) A turbine component according to claim 45, wherein said at least one bond coat layer comprises rare-earth aluminate garnets wherein the rare earth is selected from the group consisting of Gd, Tb, Dy, Ho, Er, Tm, Lu, and mixtures thereof.

54. (original) A turbine component according to claim 45, wherein said bond coat is formed from a plurality of distinct layers.

55. (original) A turbine component according to claim 45, wherein said bond coat is formed from a plurality of functionally graded layers.